

**SIMPLEX** Loosely, a communications system or equipment capable of transmission in one direction only.

**SIMULTANEOUSLY** Occurring at substantially the same instant of time. To be meaningful, the minimum time interval to be considered must be specified.

**SOLID STATE** Utilizing transistors, diodes, and passive components only; excludes tubes, relays, and other electromechanical devices.

**SPACE** One of the two possible conditions of an element (bit); an open line in a neutral circuit.

**START ELEMENT** The first element of a character in certain serial transmissions, used to permit synchronization.

**STATION BATTERY** The electrical power source for signalling in telegraphic systems.

**STOP ELEMENT** The last element of a character in certain serial transmissions, used to insure recognition of next start element.

**STORE & FORWARD** Applied to communication systems in which messages are received at intermediate routing points and recorded (stored). They are then retransmitted to a further routing point or to the ultimate recipient.

**STUNT BOX** A device used to recognize CDC's, form automatic answers, turn on printers, etc.

**SUPERVISORY CONTROL SIGNALLING** Characters or signals which automatically actuate equipment or indicators at a remote terminal.

**SYNCHRONOUS** Having a constant time interval between successive bits, characters, or events.

**TD** Transmitter-Distributor — Electromechanical unit to transform characters in punched paper tape to serial electrical impulses.

**TEX** Telex.

**TTY** Teletypewriter equipment.

**TWX** AT & T teleprinter subscription service, much the same as telephone networks for telephone subscribers.

**TELEX** International network of teleprinter subscriber service; also a domestic Western Union network.

**THREE-ROW KEYBOARD** Utilized for transmission of 5-level codes and requiring figures/letters shifts.

**TIME DIVISION MULTIPLEX** A system of transmission in which characters or bits belonging to separate messages appear at successive times on a single circuit.

**TRANSITION** The instance of switching from one state (e.g., positive voltage) to a second state (negative) in a serial transmission.

**TRANSLATORS** Code conversion devices which may generate a character sequence in response to a single character, e.g., \$ = dlrs.

**TRUNK** Circuit(s) between two exchanges as opposed to local loops.

**TWO-WIRE SYSTEM** A system in which all communication transmitted or received is carried over a two-wire circuit or equivalent.

**WATS** Wide Area Telephone Service—A tariff and system allowing calling within a given area for a set monthly charge.

**WPM** Words Per Minute; generally six characters (including space) per word.

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Just as DCI offers this glossary to improve verbal communication, DCI offers the following product lines to improve data communication.

## DATABANK

A series of low cost magnetic tape data communications terminals.



## DATAGUARD

A series of electronic coding devices which provide privacy for record communications by scrambling transmitted data.



## DATAPORT

A series of code, format, and speed converters, and character set translators.



## TELECOMMUNICATIONS

Terminal equipment for public and private communication plant installations in either domestic or international service.



DATA COMMUNICATIONS, INC.  
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## GLOSSARY

### OF

## DATA COMMUNICATIONS TERMINOLOGY

This glossary is offered by DCI in an attempt to aid communication and understanding among the many persons of diverse background working in the general field of data communications. It is intended to provide brief working definitions in compact form; unavoidably some loss of rigor has ensued.



**ARQ** An automatic system which provides error correction by utilizing a constant ratio code and a closed loop to request retransmission of mutilated characters as indicated by receipt of nonconstant ratio characters.

**ASCII** American Standard Code for Information Interchange, usually pronounced "Askee". An 8-level code for data transfer proposed to achieve compatibility between data devices.

**ASR** Automatic send/receive—A teleprinter unit with keyboard, printer, paper tape reader and paper tape punch, which allows tape to be produced and edited off line for automatic transmission.

**ALPHANUMERIC** Capable of representing the alphabet as well as the decimal digits 0-9 and (usually) a group of miscellaneous symbols.

**ASYNCHRONOUS** Having a variable time interval between successive bits, characters or events.

**BAUD** The reciprocal of the minimum time interval (in seconds) in a serial data transmission system; loosely, bits per second.

**BAUDOT CODE** The conventional 5-level teletypewriter code with provision for character interpretation alternatively as letters or figures.

**BINARY** Having two states, 0 and 1, represented by two discrete voltage or current levels.

**BIT** The basic unit of information in an on-off (two state) system.

**BIT STREAM** Referring to a binary signal without regard to groupings by character.

**BUFFER** A system component which permits a change of speed, voltage, or interface characteristic; frequently presumed to include storage capability.

**CDC** Call Directing Code—Two or three character code used to route automatically a message or command.

**CHARACTER** A numeric digit, alphabetic letter or special symbol.

**CHARACTER SET** Comprises the numbers, letters, and symbols associated with a given device or coding system.

**CHARACTERISTIC DISTORTION** The normal and predictable distortion of data bits produced by characteristics of a given circuit at a particular transmission speed.

**CIRCUIT SWITCH** A communications switching system which completes a circuit from sender to receiver at the time of transmission (as opposed to a message switch).

**CLOCK** A source of precisely-spaced timing pulses.

**CODE** A specific way of grouping bits to represent a given alphabet or character set.

**CODE CONVERSION** A process for changing the bit groupings for characters in one code into the corresponding character bit groupings for a second code.

**COMPATIBLE** Capable of direct interconnection; usually implies no requirement for code, speed, or signal level conversion.

**CONSTANT RATIO CODE** A code in which all characters are represented by combinations having a fixed ratio of ones to zeroes.

**CONTROL CHARACTER** A character used to cause functions such as line feed, carriage return, etc., to occur.

**DUPLEX** Relates to a communications system or equipment capable of transmission in both directions (see half duplex; full duplex).

**EIA INTERFACE** A set of signal characteristics (time duration, voltage and current) specified by the Electronic Industries Assn.

**ELEMENT** Synonymous with bit as the minimum subdivision within a code grouping representing a character.

**ERROR RATE** A measure of quality of circuit or equipment; the number of erroneous bits or characters in a sample, frequently taken per 100,000 characters.

**FSK** Frequency shift keying in which two possible states (one and zero) are transmitted as two separate frequencies.

**FIELDATA CODE** The U. S. Military code used in data processing as a compromise between conflicting manufacturers' codes.

**FIGURE SHIFT** A control character in the Baudot code after which characters are interpreted as belonging to the grouping containing numerics, punctuation and special symbols (upper case).

**FOUR-ROW KEYBOARD** Used for origination of 8-level codes eliminating the need for figures/letters case shifts.

**FOUR-WIRE SYSTEM** A system in which the transmitting and receiving paths are carried on two separate two-wire circuits.

**FRAMING** The process of selecting the bit groupings representing one or more characters from a continuous stream of bits.

**FRAMING BITS** Non-information carrying bits used to make possible the separation of characters in a bit stream.

**FREQUENCY DIVISION MULTIPLEX (FDM)** A system of transmission in which characters or bits belonging to separate messages modulate a series of separate carriers transmitted simultaneously on a single circuit.

**FULL DUPLEX** Refers to a communications system or equipment capable of transmission simultaneously in two directions.

**FULL SPEED** Referring to transmission of data in teleprinter systems at the full rated speed of the equipment.

**HALF DUPLEX (HDX)** Refers to a communication system capable of transmission alternately but not simultaneously in two directions.

**HALF SPEED** Referring to transmission of data in teleprinter systems at half the rated speed of the associated equipment.

**HEADER** The initial characters of a message designating addressee, routing, time of origination, etc.

**HOLLERITH CODE** The 12-unit code used in conventional punched tabulating machine cards.

**INFORMATION BIT** One of those bits which are used to specify the characters of a given code group (opposed to framing bits).

**INTERFACE** The electrical and operational characteristics of the input and output of a device or equipment.

**KSR** Keyboard send/receive—A teleprinter unit with keyboard and printer.

**LEASED CHANNEL** A point-to-point channel reserved for sole use of a single leasing customer.

**LETTERS SHIFT** A control character in the Baudot code after which all characters are interpreted as belonging to the group containing letters (lower case).

**LEVEL** In describing codes or characters, synonymous with bit and element.

**LINE HIT** An electrical interference causing the introduction of spurious signals on a circuit.

**LINE COORDINATION** The process of insuring that equipment at both ends of a circuit are set up for a specific transmission.

**LINE PRINTER** A printer in which all characters across an entire line of type are printed in one printing cycle.

**LINE SPEED** The maximum rate at which signals may be transmitted over a given channel; usually in baud or bits/sec.

**LOCAL LOOP** That part of a communication circuit from the subscriber's equipment to the line terminating equipment in the exchange (either 2-wire or 4-wire).

**LOGICAL ONE OR ZERO** "Computerese" for the two possible states of binary systems (equivalent to mark or space).

**MARGIN** The percentage of an element length by which the transitions defining the element may vary from their nominal positions.

**MARK** One of the two possible conditions of an element (bit); a closed line in a neutral circuit.

**MESSAGE** A group of characters having meaning as a whole and always handled as a group.

**MESSAGE SWITCH** A term for one of the routing points in a store and forward switching system.

**MODEM** Modulator/demodulator used to transmit and receive communications signals on a carrier.

**MULTIPLEX** Any means of placing two or more separate transmissions on one channel.

**NEUTRAL KEYING** Form of telegraph signal which has current either on or off in the circuit with "on" as mark, "off" as space.

**OPM** Operations per minute; equivalent to characters per minute when control functions are included.

**OFF-LINE** Not directly connected to the principal communication circuit or data processing equipment.

**ON-LINE** Directly connected to the principal communication circuit or data processing equipment.

**PAGE PRINTER** A printer printing characters one at a time in page format.

**PARALLEL** Reference to a system in which the elements defining a character occur simultaneously upon a number of lines.

**PARITY CHECK** Addition of non-information bits to data, making the number of ones in a grouping of bits either always even or always odd. This permits detection of bit groupings which contain single errors. It may be applied to characters, blocks, or any convenient bit grouping.

**POLAR KEYING** Form of telegraph signal in which circuit current flows one direction for marking, the other for spacing.

**PRIVATE LINE** A circuit reserved solely for one user.

**QUARTER-SPEED** Refers to transmission of data in teleprinter systems at one fourth the rated speed of the associated equipment.

**ROPP** Receive Only Page Printer—A teleprinter unit with printer only for stations which do not generate messages.

**ROTR** Receive Only Typing Reperforator—A paper tape punch which also types the received character on the edge of the tape.

**RT** Reperforator/Transmitter—An integrated unit consisting of paper tape punch and paper tape reader for temporary storage of traffic for retransmission.

**REPEATER** A system component which reconstitutes signals into standard voltages, currents, and timing.

**REPERFORATOR** A paper tape punch.

**SERIAL** A reference to a system in which the elements defining a character occur sequentially upon a single line.